Amendments to the Specification

Please amend the specification by substituting the following amended paragraphs for the identically numbered paragraphs of the specification.

[0001] This application is a continuation-in-part of co-pending U.S. application 09/619,284, filed July 19, 2000, now abandoned.

[0005] Specifically, in accordance with the present invention, there is provided a pin removal and placement tool comprising a body member and a drive shaft extending from the body member. The drive shaft has a longitudinal axis and a distal end which terminates at a tip. The tool further comprises a sole striking surface on the body member, the striking surface having a striking axis perpendicular thereto that intersects the longitudinal axis of the drive shaft at an acute angle θ. The sole striking surface faces away from the tip of the drive shaft whereby a blow struck against the striking surface will urge the drive shaft in the direction the tip is facing. There is also a handle on the body member, the handle extending transversely from a plane defined by the longitudinal axis of the drive shaft and the striking axis of the striking surface.

[0047] Figures 4 and 4A illustrate an embodiment of a pin removal and placement tool 50 according to one embodiment of the present invention, positioned for use on a bucket tooth cap 30. The tool 50 is composed of a body member 52 on which an anvil plate 54 is disposed. In this embodiment, the anvil plate 54 is attached to a striking plate 56 on the rear of body member 52, and provides a sole flat striking surface 54a. In other embodiments the anvil plate 54 might be secured directly to the body member 52 or eliminated altogether. In the latter case, a sole striking surface equivalent to striking surface 54a could be supplied, for example, by the edge of striking plate 56 to which, in Figure 4, anvil plate 54 is attached. Generally, any properly positioned and configured surface on tool 50 may serve as the striking surface. In Figures 4A and 5 it can be seen that striking plate 56 has a tapered configuration that narrows down from a base 56a (Figure 5), to which anvil plate 54 is attached, to a narrow end 54b that terminates near drive shaft 58. Tool 50 further comprises a drive shaft 58 on body member 52 for driving retaining pins 32, a handle mounting fixture, such as sleeve 60, for receiving a handle, and an optional front projecting portion 52a having a contact edge 52b located thereon. The

body member 52 may be a steel plate of approximately one-half inch thickness. Drive shaft 58 has a proximal end 58a that is welded to body member 52 or the drive shaft 58 may be made as an integral part thereof, e.g., by forging. The drive shaft 58 has a distal end 58b which terminates at a tip 58c.

[0051] Referring to Figure 4B, two adjacent caps 30 are partially shown separated by a distance D. ~~distance L.~~ A retaining pin 32 is shown partially inserted in one cap 30 and extending an expected distance I from the cap. When a properly sized tool according to this invention, e.g., tool 50 (Figure 4) is positioned between caps 30, its drive shaft 58 can be aligned with retaining pin 32 (Figure 4B) along axis A with the tip 58c of the drive shaft 58 (not shown) placed in contact with retaining pin 32. In such a position, Figure 4B shows the striking angle θ that would be provided by the tool 50 (not shown) between the striking axis E and the pin axis A, which intersect at the position G. The vertical line F from the handle mounting fixture (not shown) also intersects at position G or very closely thereto. The longitudinal striking axis E is preferably situated within the striking plate 56 (Figure 4) or along rear edge 52c. If the striking angle θ exceeds 45°, the amount of force directed along longitudinal axis A decreases, but if the angle θ decreases to about 20°, for example, the width of the tool 50 would increase and thus would not fit between caps 30 that are closer together and, further, it is more difficult to strike an almost horizontal striking surface 54a. Therefore, in order to have the tool 50 useable on different size buckets 24, the angle θ is preferably about 45° ± 5°. The total length of drive shaft 58, which is the sum of distances C1 and C2 (Figures 4 and 4D), should be equal to or slightly less than D ~~than L~~ (Figure 4B) minus I (Figures 4 and 4B). ~~Dimension L~~ Dimension D is the distance between adjacent cap side plates 36 (Figure 3). Dimension I is the clearance between tip 58c of drive shaft 58 and cap side plate 36 (Figure 3) when tool 50 is properly positioned between adjacent caps 30 (Figure 4B) to insert or remove a retainer pin 32 from a cap 30. Dimension I is seen to accommodate the length of the protruding portion of a retainer pin 32 which has been positioned by hand in the hole in cap 30 for insertion by use of tool 50. The dimension C1 plus C2 is dependent on the tool model. The dimension C2 is long enough to provide for secure attachment of the drive shaft 58 to body member 52 by suitable means such as by welding. For example, the dimension C2 may be approximately two inches. The dimension C1 must be long enough to drive the pin 32 from the cap 30 or other device anchored by pin 32, and so, like dimension C2, dimension C1 will depend on the tool model usable on a particular size of equipment. For example, the dimension C1 may be about three

inches. Once the retaining pin 32 is driven from the shank 28, one additional hit is normally required to drive the retaining pin 32 from the cap 30 /shank 28 combination.